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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,021	08/17/2001	Chang Ryul Lee	2669-0112P	2749
2292	7590	10/19/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			XIAO, KE	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/931,021	LEE, CHANG RYUL	
	Examiner Ke Xiao	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 12 July 2005.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 4-6, 10 and 11 is/are pending in the application.  
4a) Of the above claim(s) 1-3 and 7-9 is/are withdrawn from consideration.

5)  Claim(s) 4-6 and 10 is/are allowed.

6)  Claim(s) 11 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All   b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.  
\_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok (US 5,280,276) in view of Gilbert (US 5,463,409), Vaghefi (US 6,429,851) and Tabata (US 5,355,762).

Kwok teaches a multi-directional ball switch comprising a panel having four diagonally located fixtures each of which has an orthogonal shaft-hole (Fig. 7 elements 7, 14 and 18), a ball knob places on said panel (Fig. 5 element 32), a conversion means that transforms the rotation of the ball knob into an electric signal (Col. 4 lines 1-5), a computer, which inherently has a CPU that is connected to the conversion means (Col. 4 lines 27-49), and a signal generation section connected to the CPU (Col. 4 lines 27-49).

Kwok does not teach that the CPU is connected to a sound generation section, nor does he teach a switching section that restrains the rotation of the ball knob and generates an output value from the CPU. Further Kwok

fails to teach that the different sounds are generated according to the direction of movement of the ball knob, up, down, left, right and press.

Gilbert teaches a switching section that makes physical contact with a track ball, which generates an output value when it is pressed, and since there is physical contact the switch inherently restrains the movement of the ball (Fig. 2, Col. 2 lines 50-56, Col. 3 lines 26-36). It would have been obvious to one of ordinary skill in the art to add the switching element as taught by Gilbert in the track ball system disclosed by Kwok because it would provide improved and simple clicking functionality (Col. 1 lines 50-55). Vaghefi teaches a trackball system with a sound-generating portion included there in (Fig. 17, Col. 4 lines 19-39). It would have been obvious to attach a sound generation device to a computer as disclosed by Vaghefi in the trackball system as disclosed by Kwok because it would add an additional form of feedback to the user. Tabata teaches that when pressed a mouse can generate a sound and that sound can then change in pitch according to the direction in which the mouse moves (Tabata, Col. 1 lines 39-63). This is equivalent to the conditional sound generation as claimed. It would have been obvious to one of ordinary skill in the art to apply the directional sound generation means of Tabata to the combined devices of Kwok, Gilbert, and Vaghefi in order to create a more convenient method of generating music using a mouse (Tabata, Col. 1 lines 27-54).

***Allowable Subject Matter***

Claims 4-6 and 10 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent claim 4, prior art shows all limitations of the claim except four click encoders. Prior art instead shows two encoders one for the x direction and one for the y direction. The applicant however has four encoders for each of the rotational elements disclosed. The encoders are also critical to the invention and would not have been obvious to duplicate in the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

Applicant's arguments with respect to claim 11 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KENT CHANG**  
**PRIMARY EXAMINER**

October 11<sup>th</sup>, 2005 - kx -